



1FW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : David J. Mooney et al. Art Unit : 1632
Serial No. : 10/726,072 Examiner : Unknown
Filed : December 1, 2003
Title : HYBRID TISSUES FOR TISSUE ENGINEERING

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR CORRECTED OFFICIAL FILING RECEIPT

Please correct the Filing Receipt for the above-referenced application to include the following Provisional Application priority information originally claimed on the first page of the Specification (copy enclosed):

This application is a continuation application of (and claims the benefit of priority under 35 USC 120) U.S. Patent Application No. 09/572,786, filed May 17, 2000, which is the national phase of PCT/US 98/24409, filed November 17, 1998, which claims priority to U.S. Provisional Patent Application Serial No. 60/066,926, filed November 17, 1997.

Please supply a corrected Filing Receipt to the undersigned with respect to this application. A copy of the original Filing Receipt showing the changes requested is attached for your convenience.

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

October 28, 2004
Date of Deposit

Scott Bennett
Signature

Scott Bennett
Typed or Printed Name of Person Signing Certificate

Applicant : David J. Mooney et al.
Serial No. : 10/726,072
Filed : December 1, 2003
Page : 2 of 2

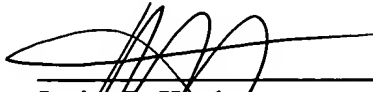
Attorney's Docket No.: 07917-176002 / UMMC 99-32

No fee is believed to be due. If, however, there are any charges or credits, please apply them to Deposit Account No. 06-1050.

Respectfully submitted,

Date: _____

10/28/64



Janice L. Kugler
Reg. No. 50,429

Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110-2804
Telephone: (617) 542-5070
Facsimile: (617) 542-8906

20963141.doc



HYBRID TISSUES FOR TISSUE ENGINEERING

5 CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation application of (and claims the benefit of priority under 35 USC 120) U.S. Patent Application No. 09/572,786, filed May 17, 2000, which is the national phase of PCT/US 98/24409, filed November 17, 1998, which claims priority to U.S. Provisional Patent Application Serial No. 60/066,926, filed November 17, 1997.

10 FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

This invention was made with funds pursuant to Grant No. BES-9501376 awarded by National Science Foundation. The federal government has certain rights to this invention.

15 BACKGROUND OF THE INVENTION

Contour deformities, whether traumatic, congenital, or aesthetic, generally require invasive surgical techniques for correction. Furthermore, deformities requiring augmentation often necessitate the use of alloplastic prostheses which suffer from problems of infection and extrusion. Engineering new tissues utilizing cell transplantation may provide a valuable tool for reconstructive and plastic surgery applications. Tissue engineering involves the morphogenesis of new tissues from constructs formed of isolated cells and biocompatible polymers. Techniques of tissue engineering employing biocompatible polymer scaffolds have been explored as a means of creating alternatives to prosthetic materials currently used in augmentation and reconstructive surgery.

20 Chondrocyte transplantation in particular has been successfully used to engineer new tissue masses due to their low metabolic requirements. Cells can be adhered onto a polymeric matrix and implanted to form a cartilaginous structure. This can be accomplished, as described in U. S. Patent No. 5,041,138 to Vacanti, et al., by shaping of the matrix prior to implantation to form a desired anatomical structure and surgical implantation of the shaped matrix.

25 Mixtures of dissociated cells and biocompatible polymers in the form of hydrogels have been used to form cellular tissues and cartilaginous structures that include non-cellular material which will degrade and be removed to leave tissue or cartilage that is histologically and chemically the same as naturally produced tissue or cartilage. Slowly polymerizing, biocompatible, biodegradable hydrogels have been demonstrated to be useful as a means of delivering large numbers of isolated cells into a patient to create an organ equivalent or tissue such as cartilage. The gels promote engraftment and provide three dimensional templates for new cell growth.

30



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/726,072	12/01/2003	1632	493	07017-176002 / UMMS 99-32	3	20	4

26161 ✓
FISH & RICHARDSON PC
225 FRANKLIN ST
BOSTON, MA 02110

Docketed By Practice Systems
Action Code: Correct of RECPT
Base Date: 9/30/04
Due Date: 10/30/04
Deadline: 10/30/04
Initial: JPF

CONFIRMATION NO. 2596

UPDATED FILING RECEIPT



OC00000013952600*

Date Mailed: 09/30/2004

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

David J. Mooney, Ann Arbor, CA; ✓
Charles A. Vacanti, Uxbridge, MA; ✓
Craig R. Halberstadt, Charlotte, NC; ✓
Andrea N. Ferguson, Indianapolis, IN;
Jennifer J. Marler, Cincinnati, OH; ✓
Byung-Soo Kim, Seoul, KOREA, REPUBLIC OF; ✓

RECEIVED

OCT 04 2004

FISH & RICHARDSON, P.C.
BOSTON OFFICE

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 09/572,786 05/17/2000 ABN, which is the national phase of
PCT/US 98/24409, filed November 17, 1998, which claims priority to U.S. Provisional Patent
Application Serial No. 60/066,926, filed November 17, 1997.
~~Foreign Applications~~
~~UNITED STATES OF AMERICA PCT/US98/24409 11/17/1998~~

If Required, Foreign Filing License Granted: 03/11/2004

The number of your priority application, to be used for filing abroad under the Paris Convention is,
US10/726,072

Projected Publication Date: 01/06/2005

Non-Publication Request: No

Docketed By Billing Secretary
Due Date: _____
Deadline: _____
Initials: _____

Early Publication Request: No

**** SMALL ENTITY ****

Title

Hybrid tissues for tissue engineering ✓

Preliminary Class

424

**LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15**

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Office of Export Administration, Department of Commerce (15 CFR 370.10 (j)); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).